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FILE 'CONFSCI' ENTERED AT 11:36:51 ON 13 JAN 1999
COPYRIGHT (C) 1999 Cambridge Scientific Abstracts (CSA)

=> s bacteria? and modif? (5a) bile acid

2 FILES SEARCHED...
6 FILES SEARCHED...
9 FILES SEARCHED...
L1 17 BACTERIA? AND MODIF? (5A) BILE ACID

=> dup rem l1

PROCESSING COMPLETED FOR L1
L2 12 DUP REM L1 (5 DUPLICATES REMOVED)

=> d bib an 1-12

L2 ANSWER 1 OF 12 CAPLUS COPYRIGHT 1999 ACS
AN 1996:577923 CAPLUS
DN 125:216876
TI Novel bile acid-converting microorganism
IN Okamura, Akio; Ogata, To-oru; Kimura, Hiromi
PA Tokyo Tanabe Company Limited, Japan
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------|--|----------|--|----------|
| PI | WO 9624659 | A1 | 19960815 | WO 96-JP182 | 19960131 |
| | W: | AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN | | RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | |
| | CA 2212186 | AA | 19960815 | CA 96-2212186 | 19960131 |
| | AU 9645475 | A1 | 19960827 | AU 96-45475 | 19960131 |
| | EP 872546 | A1 | 19981021 | EP 96-901493 | 19960131 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE | | | |
| PRAI | JP 95-17636 | | 19950206 | | |
| | WO 96-JP182 | | 19960131 | | |
| AN | 1996:577923 | CAPLUS | | | |
| DN | 125:216876 | | | | |

L2 ANSWER 2 OF 12 CAPLUS COPYRIGHT 1999 ACS
AN 1997:192717 CAPLUS
DN 126:275549
TI Colon cancer and intestinal flora
AU Shimoyama, Takashi; Tandia, Noritoshi
CS Dept. Internal Med., Hyogo College of Med., Nishinomiya, 663, Japan
SO Chonai Furora to Hatsugan--2, Chonai Furora Shinpojumu, 2nd (1995),
Meeting Date 1993, 67-77, 164-165. Editor(s): Mitsuoka, Tomotari.
Publisher: Japan Scientific Societies Press, Tokyo, Japan.
CODEN: 64EBAP

DT Conference; General Review
LA Japanese
AN 1997:192717 CAPLUS
DN 126:275549

L2 ANSWER 3 OF 12 CAPLUS COPYRIGHT 1999 ACS
AN 1994:235484 CAPLUS
DN 120:235484
TI Ursodeoxycholic acid modifies gut-derived endotoxemia in neonatal rats
AU Schwarzenberg, Sarah Jane; Bundy, Mary
CS Dep. Pediatr., Univ. Minnesota, Minneapolis, MN, 55455, USA
SO Pediatr. Res. (1994), 35(2), 214-17
CODEN: PEREBL; ISSN: 0031-3998
DT Journal
LA English
AN 1994:235484 CAPLUS
DN 120:235484

L2 ANSWER 4 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1994:136520 BIOSIS
DN PREV199497149520
TI Effects of different formula feeds on the developmental pattern of urinary bile acid excretion in infants.
AU Wahlen, Eva (1); Strandvik, Birgitta
CS (1) Dep. Pediatr., Huddinge Hosp., S-141 86 Huddinge Sweden
SO Journal of Pediatric Gastroenterology and Nutrition, (1994) Vol. 18,
No. 1, pp. 9-19.
ISSN: 0277-2116.
DT Article
LA English
AN 1994:136520 BIOSIS

L2 ANSWER 5 OF 12 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 91-295369 [40] WPIDS
DNC C91-127657
TI Synthetic conjugated bile acid esp. cholyl-sarcosine - useful in bile acid replacement therapy having resistance against bacterial de-conjugation.
DC B01 B05
IN HOFMANN, A F
PA (REGC) UNIV CALIFORNIA
CYC 21
PI WO 9113621 A 910919 (9140)*
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE
W: AU CA HU JP PL SU
AU 9175513 A 911010 (9201)
US 5079240 A 920107 (9205)
EP 493539 A1 920708 (9228) EN 25 pp
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
EP 493539 A4 921021 (9524)
ADT US 5079240 A US 90-493902 900315; EP 493539 A1 EP 91-906649 910313,
WO 91-US1679 910313; EP 493539 A4 EP 91-906649
FDT EP 493539 A1 Based on WO 9113621
PRAI US 90-493902 900315

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L2 ANSWER 6 OF 12 CAPLUS COPYRIGHT 1999 ACS
 AN 1991:580465 CAPLUS
 DN 115:180465
 TI Inborn errors of bile acid metabolism
 AU Clayton, P. T.
 CS Dep. Child Health, Inst. Child Health, London, WC1N 1EH, UK
 SO J. Inherited Metab. Dis. (1991), 14(4), 478-96
 CODEN: JIMDDP; ISSN: 0141-8955
 DT Journal; General Review
 LA English
 AN 1991:580465 CAPLUS
 DN 115:180465

L2 ANSWER 7 OF 12 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.DUPLICATE 1
 AN 85041298 EMBASE
 TI Substrate specificity of cholylglycine hydrolase for the hydrolysis
 of bile acid conjugates.
 AU Batta A.K.; Salen G.; Shefer S.
 CS Department of Medicine, University of Medicine and Dentistry of New
 Jersey, New Jersey Medical School, Newark, NJ 07103, United States
 SO J. BIOL. CHEM., (1984) 259/24 (15035-15039).
 CODEN: JBCHA3
 CY United States
 LA English
 AN 85041298 EMBASE

L2 ANSWER 8 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
 AN 1983:238862 BIOSIS
 DN BA75:88862
 TI CHOLESTEROL METABOLISM IN GNTOBIOTIC GERBILS MERIONES-UNGUICULATUS.
 AU BARTIZAL K F JR; BEAVER M H; WOSTMANN B S
 CS DEP. MICROBIOL., UNIV. NOTRE DAME, NOTRE DAME, INDIANA 46556, USA.
 SO LIPIDS, (1982) 17 (11), 791-797.
 CODEN: LPDSAP. ISSN: 0024-4201.
 FS BA; OLD
 LA English
 AN 1983:238862 BIOSIS

L2 ANSWER 9 OF 12 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.DUPLICATE 2
 AN 81117878 EMBASE
 TI Deconjugation of bile salts by Bacteroides and Clostridium.
 AU Masuda N.
 CS Dept. Bacteriol., Kagoshima Univ. Sch. Med., Kagoshima, Japan
 SO MICROBIOL. IMMUNOL., (1981) 25/1 (1-11).
 CODEN: MIIMDV
 CY Japan
 LA English
 AN 81117878 EMBASE

L2 ANSWER 10 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
 AN 1980:211694 BIOSIS
 DN BA70:4190
 TI EFFECT OF DIFFERENT MODIFICATIONS OF A SEMI SYNTHETIC DIET ON BILE
 ACID METABOLISM IN AXENIC AND HOLOXENIC RATS.
 AU SACQUET E; LEPRINCE C; RIOTTOT M
 CS LAB. ANIM. GERMES CNRS, INST. NATL. RECH. AGRON., 78350
 JOUY-EN-JOSAS, FR.
 SO ANN BIOL ANIM BIOCHIM BIOPHYS, (1979 (RECD 1980)) 19 (6), 1677-1688.
 CODEN: ABABAC. ISSN: 0003-388X.
 FS BA; OLD
 LA English
 AN 1980:211694 BIOSIS

L2 ANSWER 11 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
 AN 1974:28968 BIOSIS Best Available Copy
 DN BR10:28968
 TI ENHANCED BACTERIAL MODIFICATION OF BILE
 ACID IN WHIPPLES DISEASE.
 AU GARBUTT J T; STEVENS R D
 SO Clin. Res., (1973) 21 (1), 49.
 CODEN: CLREAS. ISSN: 0009-9279.
 DT Conference
 FS BR; OLD
 LA Unavailable
 AN 1974:28968 BIOSIS

L2 ANSWER 12 OF 12 CAPLUS COPYRIGHT 1999 ACS
 AN 1973:27320 CAPLUS
 DN 78:27320
 TI Modification of bile acids by intestinal bacteria
 AU Lewis, Roger; Gorbach, Sherwood
 CS Dep. Infect. Dis., Cook Cty. Hosp., Chicago, Ill., USA
 SO Arch. Intern. Med. (1972), 130(4), 545-9
 CODEN: AIMDAP
 DT Journal
 LA English
 AN 1973:27320 CAPLUS
 DN 78:27320

=> d bib ab 1-12

L2 ANSWER 1 OF 12 CAPLUS COPYRIGHT 1999 ACS
 AN 1996:577923 CAPLUS
 DN 125:216876
 TI Novel bile acid-converting microorganism
 IN Okamura, Akio; Ogata, To-oru; Kimura, Hiromi
 PA Tokyo Tanabe Company Limited, Japan
 SO PCT Int. Appl., 17 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| PI | WO 9624659 | A1 | 19960815 | WO 96-JP182 | 19960131 |
| | W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES,
FI, GB, GE, HU, JP, KE, KG, KR, KZ, LK, LR, LT, LU, LV, MD,
MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ,
TT, UA, US, UZ, VN | | | | |
| | RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR,
IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN,
ML, MR, NE, SN, TD, TG | | | | |
| | CA 2212186 | AA | 19960815 | CA 96-2212186 | 19960131 |
| | AU 9645475 | A1 | 19960827 | AU 96-45475 | 19960131 |
| | EP 872546 | A1 | 19981021 | EP 96-901493 | 19960131 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE | | | | |

PRAI JP 95-17636 19950206
 WO 96-JP182 19960131

AB Bacillus sp. TTUR 302 is capable of converting bile acids having a 7.alpha.-hydroxyl group or a 7-keto group into bile acids having a 7.beta.-hydroxyl group. The bacteria is useful for easy and safe manuf. of 7.beta.-hydroxy bile acids such as ursocholic acid. The process is easy to operate and safe as compared with the conventional chem. synthesis methods. It is also superior to the conventional microbial methods particularly in the case of industrial prodn., since the microorganism of the invention is a

facultative anaerobe and thus capable of effecting the conversion of
the bile acids under **Best Available Copy** conditions at a high substrate concn.
The physiol. and morphol. characteristics of this **bacteria**
were given.

L2 ANSWER 2 OF 12 CAPLUS COPYRIGHT 1999 ACS
AN 1997:192717 CAPLUS
DN 126:275549
TI Colon cancer and intestinal flora
AU Shimoyama, Takashi; Tandia, Noritoshi
CS Dept. Internal Med., Hyogo College of Med., Nishinomiya, 663, Japan
SO Chonai Furora to Hatsugan--2, Chonai Furora Shinpojumu, 2nd (1995),
Meeting Date 1993, 67-77, 164-165. Editor(s): Mitsuoka, Tomotari.
Publisher: Japan Scientific Societies Press, Tokyo, Japan.
CODEN: 64EBAP
DT Conference; General Review
LA Japanese
AB A review with 14 refs. Intestinal microflora play an important role
in colonic carcinogenesis through the interaction with diets and
endogenous factors. For example, susceptibilities to carcinogens
are different between germ-free and conventional animals, or among
those given antibiotics. People in countries with a high incidence
of colon cancer harbor microflora contg. more anaerobes compared
with low incidence countries. Bile acid has received much attention
with regard to colon cancer and microflora. Excretion of bile acids
is increased with high fat diets. Since action of bile acids
entirely depends on their structure, **bacterial modification of bile acid structure** is
crucial in pathophysiol. action of bile acids. Secondary bile acid
and unsatd. bile acid show more potent promoting activity than their
parent compds. On perfusion study, bile acids exert prostaglandin
E2 (PGE2) output of colonic mucosa, and the possibility is indicated
that their co-mutagenicity or mutagenicity is exhibited by
immunosuppression via excessive PGE2 prodn. These functions of bile
acids may be involved in colonic carcinogenesis in humans.
Carcinogenic epoxide and nucleotoxic steroid compds. produced by
microflora from neutral sterols may be involved in carcinogenesis.
Microflora may also produce carcinogenic metabolites from amino
acids. Anaerobes enhance prodn. of fecapentaenes which show highly
potent mutagenicity. As for cancer prevention, interaction of
bacteria and dietary fiber is important. Dietary fiber acts
as roughage to reduce the concn. of carcinogens in the intestine.
Microflora digest dietary fiber and decrease pH of the intestinal
content, thus suppressing the effects of alk. dependent promoters
such as bile acids and fatty acids. The role of intestinal
microflora in colonic carcinogenesis is discussed in relation to
bile acids and other substrates. In view of these knowledges,
preventive measures against colonic carcinogenesis are considered.
These may include redn. of animal fat consumption, increase in
dietary fiber and calcium intakes, which may induce the appropriate
intestinal climate towards prevention of colonic cancer.

L2 ANSWER 3 OF 12 CAPLUS COPYRIGHT 1999 ACS
AN 1994:235484 CAPLUS
DN 120:235484
TI Ursodeoxycholic acid modifies gut-derived endotoxemia in neonatal
rats
AU Schwarzenberg; Sarah Jane; Bundy, Mary
CS Dep. Pediatr., Univ. Minnesota, Minneapolis, MN, 55455, USA
SO Pediatr. Res. (1994), 35(2), 214-17
CODEN: PEREBL; ISSN: 0031-3998
DT Journal
LA English
AB The authors developed a model for the translocation of intraluminal
endotoxin in the neonatal animal and used it to examine the capacity

of a nonhepatotoxic **bile acid**, ursodeoxycholic acid (UDCA), to **modify** endotoxin translocation and cytokine response. Three-day-old Sprague-Dawley rats were randomized to receive enterally either no drug, lipopolysaccharide (LPS, 1 mg/animal), or UDCA (400 .mu.g/animal) alone, or UDCA followed by LPS 1 h later. One h after LPS administration, the rats were killed and plasma endotoxin and tumor necrosis factor (TNF) were measured. Control animals had low circulating endotoxin (21.2 .+- .7.6 endotoxin units) and TNF (0.06 .+- .02 ng/mL). Enteral administration of LPS 1 h before the rats were killed resulted in significant elevation of endotoxin (249.5 .+- .71.3, p = 0.008) and TNF (3.6 .+- .1.3, p = 0.019). UDCA alone did not alter endotoxin levels (8.7 .+- .2.1). UDCA 1 h before LPS prevented the rise in endotoxin (38.9 .+- .11.2 endotoxin units) and TNF (0.2 .+- .0.05) significantly. Chenodeoxycholic acid was studied in a similar group of expts. and prevented neither the translocation of LPS nor the development of increased TNF levels in animals receiving LPS. In conclusion, LPS can cross the intestinal barrier in the normal neonatal rat. UDCA, administered before LPS, can decrease the translocation of LPS and prevent the cytokine response as measured by TNF levels. The authors speculate that UDCA, administered prophylactically, might reduce morbidity in clin. conditions leading to gut-derived endotoxemia.

L2 ANSWER 4 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1994:136520 BIOSIS
DN PREV199497149520
TI Effects of different formula feeds on the developmental pattern of urinary bile acid excretion in infants.
AU Wahlen, Eva (1); Strandvik, Birgitta
CS (1) Dep. Pediatr., Huddinge Hosp., S-141 86 Huddinge Sweden
SO Journal of Pediatric Gastroenterology and Nutrition, (1994) Vol. 18, No. 1, pp. 9-19.
ISSN: 0277-2116.
DT Article
LA English
AB The excretion of bile acids in urine was followed prospectively during the first year of life in 17 infants fed different diets from the age of 3 to 10 days. Eight infants were breast-fed, four were fed formulas that were based on adapted cow's milk, and five were fed a formula that was based on soy protein isolate. The formulas had higher protein concentrations than human milk; had different types of proteins, and had not been supplemented with taurine. Urinary bile acids were determined by gas-liquid chromatographic/mass spectrometric analyses of 24-h urinary samples collected at 1-12 days (only formula-fed infants) and at 1, 3, 6, 9, and 12 months of age. The results showed a higher urinary bile acid excretion at 3 months of age in both formula groups than in the breast-fed infants. A deficiency of dietary taurine during formula-feeding did not seem to limit the formation of taurine conjugates during the first month of life. The developmental pattern of urinary bile acid excretion during the first year differed according to the type of feeding. Isomers of cholic and chenodeoxycholic acid appeared in the urine of all breast-fed infants at 6 to 12 months of age. These metabolites, assumed to be the first metabolites derived from the developing gut flora of the infants, appeared at an earlier age and in higher amounts in both formula groups compared to breast-fed infants. Bile acids lacking a 7-hydroxy group, known to be formed by the intestinal flora, appeared in infants in all feeding groups later than the isomers. The results of the study imply that the early introduction of formula may **modify bile acid** metabolism in infants.

AN 91-295369 [40] WPIDS
DNC C91-127657
TI Synthetic conjugated bile acid esp. cholyl-sarcosine - useful in bile acid replacement therapy having resistance against **bacterial** de-conjugation.
DC B01 B05
IN HOFMANN, A F
PA (REGC) UNIV CALIFORNIA
CYC 21
PI WO 9113621 A 910919 (9140)*
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE
W: AU CA HU JP PL SU
AU 9175513 A 911010 (9201)
US 5079240 A 920107 (9205)
EP 493539 A1 920708 (9228) EN 25 pp
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
EP 493539 A4 921021 (9524)
ADT US 5079240 A US 90-493902 900315; EP 493539 A1 EP 91-906649 910313,
WO 91-US1679 910313; EP 493539 A4 EP 91-906649
FDT EP 493539 A1 Based on WO 9113621
PRAI US 90-493902 900315
AB WO 9113621 A UPAB: 930928
Replacement of bile acid in the biliary tract during conditions of deficiency comprises administering a synthetic bile acid comprising a non-deconjugatable reaction prod. (I) of a natural bile acid (esp. cholic acid) and an N-alkyl amino acid or analogue.
(I) is specifically claimed.
The **bile acid** is modified by conjugation with an uncommon amino acid or by the replacement of a peptide bond by a hydrolysis resistant bond. The N-alkyl amino acid is N-methyl glycine; the uncommon amino acid is D-amino acid, beta-alanine or N-acetyl glycine and the peptide bond is replaced by an ether bond or an inverse peptide bond.
USE/ADVANTAGE - Modified (I) is able to resist **bacterial** hydrolysis and thereby resist **bacterial** deconjugation. The replacements can be used when natural secretion to the small intestine is decreased e.g. biliary fistula or normally secreted bile acids are deconjugated by **bacterial** overgrowth, e.g. in blind loop syndrome. They increase the hydrophilicity of the bile acid pool. Dosage is 12-18 g/day (esp. 4-6g).
0/6

L2 ANSWER 6 OF 12 CAPLUS COPYRIGHT 1999 ACS
AN 1991:580465 CAPLUS
DN 115:180465
TI Inborn errors of bile acid metabolism
AU Clayton, P. T.
CS Dep. Child Health, Inst. Child Health, London, WC1N 1EH, UK
SO J. Inherited Metab. Dis. (1991), 14(4), 478-96
CODEN: JIMDDP; ISSN: 0141-8955
DT Journal; General Review
LA English
AB A review with .apprx.100 refs. of the diagnosis of inborn errors of **bile acid** metab.; disorders involving **modification** of the cholesterol nucleus and side chain modifications; disorders affecting enterohepatic circulation; and possible disorders affecting the processing of **bacterial** metabolites.

L2 ANSWER 7 OF 12 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.DUPLICATE 1
AN 85041298 EMBASE
TI Substrate specificity of cholylglycine hydrolase for the hydrolysis of bile acid conjugates.
AU Batta A.K.; Salen G.; Shefer S.

CS Department of Medicine, University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark, NJ 07103, United States
SO J. BIOL. CHEM., (1984) 259/24 (15035-15039).
CODEN: JBCHA3
CY United States
LA English
AB The substrate specificity of cholylglycine hydrolase has been investigated using **bile acid** conjugates with **modifications** in the steroid ring system, the side chain, or the amino acid moiety. Epimerization at C-3 and C-7 did not affect the activity of the enzyme while oxidation of the three nuclear hydroxyl groups reduced the affinity of the enzyme toward the substrate. Elongation of the side chain by one or three carbons inhibited enzyme activity. Conjugates prepared from C24 bile acids and analogs of taurine and glycine with one or two methylene groups were effectively hydrolyzed, whereas conjugates with a tertiary amide group completely resisted hydrolysis. Increasing the length of the bile acid side chain or using a bile acid conjugate with a tertiary amide group may produce compounds that will resist intestinal **bacterial** destruction.

L2 ANSWER 8 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1983:238862 BIOSIS
DN BA75:88862
TI CHOLESTEROL METABOLISM IN GNOTOBIOtic GERBILS MERIONES-UNGUICULATUS.
AU BARTIZAL K F JR; BEAVER M H; WOSTMANN B S
CS DEP. MICROBIOL., UNIV. NOTRE DAME, NOTRE DAME, INDIANA 46556, USA.
SO LIPIDS, (1982) 17 (11), 791-797.
CODEN: LPDSAP. ISSN: 0024-4201.
FS BA; OLD
LA English
AB Germfree gerbils were associated with a murine-derived hexaflora which produced only minor changes in the primary bile acid pattern of rats. These hexaflora-associated gerbils had relatively small ceca (4% of body weight) and reproduced well. Although serum cholesterol levels of both conventional and hexaflora-associated gerbils increased in response to dietary cholesterol, the hexaflora-associated gerbil showed a greater elevation in serum cholesterol than the conventional gerbil when maintained on a diet containing 0.1% cholesterol. This increase in serum cholesterol was manifested almost totally in the very low density lipoprotein and low density lipoprotein fractions. The fecal bile acids of the hexaflora-associated gerbil were largely deconjugated, but very little further modification of cholic or chenodeoxycholic acid occurred. Evidently, in the absence of elements of the intestinal **bacterial** microflora that express a **bile acid-modifying** potential, particularly a 7-.alpha.-dehydroxylating capacity, catabolism of cholesterol to bile acids is reduced, and cholesterol accumulates in the very low density and low density serum lipoprotein fractions.

L2 ANSWER 9 OF 12 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.DUPLICATE 2
AN 81117878 EMBASE
TI Deconjugation of bile salts by Bacteroides and Clostridium.
AU Masuda N.
CS Dept. Bacteriol., Kagoshima Univ. Sch. Med., Kagoshima, Japan
SO MICROBIOL. IMMUNOL., (1981) 25/1 (1-11).
CODEN: MIIMDV
CY Japan
LA English
AB Deconjugation of bile salts by 4 strains of Bacteroides and 4 strains of Clostridium was studied by the use of resting cells and cell-free culture supernatants. Bacteroides strains yielded active cells but showed relatively low bile salt hydrolase (BSH) activity in the culture supernatants while the reverse was the case for the

spore-forming clostridial strains. BSH was formed constitutively and was oxygen insensitive. The optimum pH was between 4.5 and 5.0. Marked substrate specificity was found in two strains, one Clostridium and one Bacteroides, which showed restricted activity against taurine conjugates. Bacteroides in general attacked the taurine conjugates of dihydroxy bile acids more readily than the trihydroxy taurine conjugates. Deconjugated bile acid moieties were further modified by some resting cells, depending on the bacterial strain, while no enzymatic activity other than that of BSH was found in the culture supernatants. Cells of *B. fragilis* 2536 performed 7.alpha.-dehydrogenation when the pH of the medium allowed the reaction, and this oxidative process was markedly enhanced in the presence of an abundant supply of oxygen as a terminal electron acceptor. *C. perfringens* PB 6K produced the 3-keto product in addition to the 3.beta.-hydroxy derivative of the liberated bile acids and the formation of the latter derivative seemed to take place without preliminary deconjugation.

L2 ANSWER 10 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1980:211694 BIOSIS
DN BA70:4190
TI EFFECT OF DIFFERENT MODIFICATIONS OF A SEMI SYNTHETIC DIET ON BILE ACID METABOLISM IN AXENIC AND HOLOXENIC RATS.
AU SACQUET E; LEPRINCE C; RIOTTOT M
CS LAB. ANIM. GERMES CNRS, INST. NATL. RECH. AGRON., 78350 JOUY-EN-JOSAS, FR.
SO ANN BIOL ANIM BIOCHIM BIOPHYS, (1979 (RECD 1980)) 19 (6), 1677-1688.
CODEN: ABABAC. ISSN: 0003-388X.
FS BA; OLD
LA English
AB Axenic (germfree) and holoxenic (conventional) rats were fed diets which were different as to the mode of sterilization (autoclaving or .gamma.-irradiation) and the absence or presence of 10% lactose added before sterilization. The autoclaved diet was offered to the rats in the form of pellets and the irradiated diet in the form of a paste. Important changes in bile acid metabolism were induced by these dietary modifications. The bile acid intestinal pools were larger in the rats fed the irradiated diet than in those fed the autoclaved one. They were unmodified by the addition of lactose when the diet was irradiated but increased when it was autoclaved. The variations were observed in axenic and holoxenic rats and are considered as not mediated by the intestinal bacterial flora. Bile acid fecal excretions varied conversely to the pools. In axenic rats the percentage of cholic acid decreased when the bile acid pool increased. In holoxenic rats the bacterial transformation of bile acids was lower with the irradiated diet than with the autoclaved diet, and with the lactose-containing diet than with the lactose-free one. The formation of .omega.-muricholic acid at the expense of hyodeoxycholic acid increased when the bacterial transformation of bile acids decreased. Hypotheses are proposed to explain these variations in bile acid metabolism induced by the diet.

L2 ANSWER 11 OF 12 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1974:28968 BIOSIS
DN BR10:28968
TI ENHANCED BACTERIAL MODIFICATION OF BILE ACID IN WHIPPLES DISEASE.
AU GARBUTT J T; STEVENS R D
SO Clin. Res., (1973) 21 (1), 49.
CODEN: CLREAS. ISSN: 0009-9279.
DT Conference
FS BR; OLD

LA Unavailable

L2 ANSWER 12 OF 12 CAPLUS COPYRIGHT 1999 ACS
AN 1973:27320 CAPLUS
DN 78:27320

TI Modification of bile acids by intestinal **bacteria**
AU Lewis, Roger; Gorbach, Sherwood
CS Dep. Infect. Dis., Cook Cty. Hosp., Chicago, Ill., USA
SO Arch. Intern. Med. (1972), 130(4), 545-9
CODEN: AIMDAP

DT Journal
LA English

AB Bile acids secreted into the small intestine are conjugated with glycine or taurine, but feces contain few conjugated products. Obligate anaerobic **bacteria** deconjugate and a no. of organisms further convert the deconjugated bile salts. Oxidn. of conjugated bile salts without prior deconjugation may occur. Some clin. syndromes are assocd. with changes in the bile acid and microbial ecol. Some metabolites of **bacterial** bile metab. resemble known carcinogens.

=> s 12 and dehydroxylase

L3 0 L2 AND DEHYDROXYLASE

=> s 12 and deconjugat?

L4 4 L2 AND DECONJUGAT?

=> d bib ab 1-4

L4 ANSWER 1 OF 4 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 81117878 EMBASE

TI Deconjugation of bile salts by Bacteroides and Clostridium.
AU Masuda N.
CS Dept. Bacteriol., Kagoshima Univ. Sch. Med., Kagoshima, Japan
SO MICROBIOL. IMMUNOL., (1981) 25/1 (1-11).
CODEN: MIIMDV

CY Japan
LA English

AB Deconjugation of bile salts by 4 strains of Bacteroides and 4 strains of Clostridium was studied by the use of resting cells and cell-free culture supernatants. Bacteroides strains yielded active cells but showed relatively low bile salt hydrolase (BSH) activity in the culture supernatants while the reverse was the case for the spore-forming clostridial strains. BSH was formed constitutively and was oxygen insensitive. The optimum pH was between 4.5 and 5.0. Marked substrate specificity was found in two strains, one Clostridium and one Bacteroides, which showed restricted activity against taurine conjugates. Bacteroides in general attacked the taurine conjugates of dihydroxy bile acids more readily than the trihydroxy taurine conjugates. Deconjugated bile acid moieties were further modified by some resting cells, depending on the **bacterial** strain, while no enzymatic activity other than that of BSH was found in the culture supernatants. Cells of *B. fragilis* 2536 performed 7.alpha.-dehydrogenation when the pH of the medium allowed the reaction, and this oxidative process was markedly enhanced in the presence of an abundant supply of oxygen as a terminal electron acceptor. *C. perfringens* PB 6K produced the 3-keto product in addition to the 3.beta.-hydroxy derivative of the liberated bile acids and the formation of the latter derivative seemed to take place without preliminary deconjugation.

L4 ANSWER 2 OF 4 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1983:238862 BIOSIS
DN BA75:88862
TI CHOLESTEROL METABOLISM IN GNOTOBIOTIC GERBILS MERIONES-UNGUICULATUS.
AU BARTIZAL K F JR; BEAVER M H; WOSTMANN B S
CS DEP. MICROBIOL., UNIV. NOTRE DAME, NOTRE DAME, INDIANA 46556, USA.
SO LIPIDS, (1982) 17 (11), 791-797.
CODEN: LPDSAP. ISSN: 0024-4201.
FS BA; OLD
LA English
AB Germfree gerbils were associated with a murine-derived hexaflora which produced only minor changes in the primary bile acid pattern of rats. These hexaflora-associated gerbils had relatively small ceca (4% of body weight) and reproduced well. Although serum cholesterol levels of both conventional and hexaflora-associated gerbils increased in response to dietary cholesterol, the hexaflora-associated gerbil showed a greater elevation in serum cholesterol than the conventional gerbil when maintained on a diet containing 0.1% cholesterol. This increase in serum cholesterol was manifested almost totally in the very low density lipoprotein and low density lipoprotein fractions. The fecal bile acids of the hexaflora-associated gerbil were largely **deconjugated**, but very little further modification of cholic or chenodeoxycholic acid occurred. Evidently, in the absence of elements of the intestinal bacterial microflora that express a **bile acid-modifying** potential, particularly a 7-.alpha.-dehydroxylating capacity, catabolism of cholesterol to bile acids is reduced, and cholesterol accumulates in the very low density and low density serum lipoprotein fractions.

L4 ANSWER 3 OF 4 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 91-295369 [40] WPIDS
DNC C91-127657
TI Synthetic conjugated bile acid esp. cholyl-sarcosine - useful in bile acid replacement therapy having resistance against **bacterial de-conjugation**.
DC B01 B05
IN HOFMANN, A F
PA (REGC) UNIV CALIFORNIA
CYC 21
PI WO 9113621 A 910919 (9140)*
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE
W: AU CA HU JP PL SU
AU 9175513 A 911010 (9201)
US 5079240 A 920107 (9205)
EP 493539 A1 920708 (9228) EN 25 pp
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
EP 493539 A4 921021 (9524)
ADT US 5079240 A US 90-493902 900315; EP 493539 A1 EP 91-906649 910313,
WO 91-US1679 910313; EP 493539 A4 EP 91-906649
FDT EP 493539 A1 Based on WO 9113621
PRAI US 90-493902 900315
AB WO 9113621 A UPAB: 930928
Replacement of bile acid in the biliary tract during conditions of deficiency comprises administering a synthetic bile acid comprising a non-**deconjugatable** reaction prod. (I) of a natural bile acid (esp. cholic acid) and an N-alkyl amino acid or analogue. (I) is specifically claimed.
The **bile acid is modified** by conjugation with an uncommon amino acid or by the replacement of a peptide bond by a hydrolysis resistant bond. The N-alkyl amino acid is N-methyl glycine; the uncommon amino acid is D-amino acid, beta-alanine or N-acetyl glycine and the peptide bond is replaced by an ether bond or an inverse peptide bond.

USE/ADVANTAGE - Modified (I) is able to resist bacterial hydrolysis and thereby resist **bacterial deconjugation**. The replacements can be used when natural secretion to the small intestine is decreased e.g. biliary fistula or normally secreted bile acids are **deconjugated** by **bacterial** overgrowth, e.g. in blind loop syndrome. They increase the hydrophilicity of the bile acid pool. Dosage is 12-18 g/day (esp. 4-6g).
0/6

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 1999 ACS
AN 1973:27320 CAPLUS
DN 78:27320
TI Modification of bile acids by intestinal **bacteria**
AU Lewis, Roger; Gorbach, Sherwood
CS Dep. Infect. Dis., Cook Cty. Hosp., Chicago, Ill., USA
SO Arch. Intern. Med. (1972), 130(4), 545-9
CODEN: AIMDAP
DT Journal
LA English
AB Bile acids secreted into the small intestine are conjugated with glycine or taurine, but feces contain few conjugated products. Obligate anaerobic **bacteria deconjugate** and a no. of organisms further convert the **deconjugated** bile salts. Oxidn. of conjugated bile salts without prior **deconjugation** may occur. Some clin. syndromes are assocd. with changes in the bile acid and microbial ecol. Some metabolites of **bacterial** bile metab. resemble known carcinogens.

=> s bacteria? and dehydroxylase

3 FILES SEARCHED...
L5 191 BACTERIA? AND DEHYDROXYLASE

=> s 15 and gram (5a) positive

7 FILES SEARCHED...
L6 16 L5 AND GRAM (5A) POSITIVE

=> dup rem 16

PROCESSING COMPLETED FOR L6
L7 8 DUP REM L6 (8 DUPLICATES REMOVED)

=> d bib ab 1-8

L7 ANSWER 1 OF 8 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1997:189060 BIOSIS
DN PREV199799488263
TI Role of bile acid metabolising, intestinal **bacterial** enzymes in cholesterol gallstones: In vitro methods and ex vivo results in human caecal aspirates.
AU Thomas, L. A. (1); Murphy, G. M. (1); Dowling, R. H. (1); King, A.; French, G. R.
CS (1) Gastroenterol. Unit, Guys Campus, UMDS, London UK
SO Clinical Science (London), (1997) Vol. 92, No. 2, pp. 4P.
Meeting Info.: Autumn Meeting held in conjunction with the Science and Medicine Conference London, England, UK November 14-15, 1996
ISSN: 0143-5221.
DT Conference; Abstract; Conference
LA English

L7 ANSWER 2 OF 8 MEDLINE
AN 95303016 MEDLINE

DN 95303016
TI Isolation and characterization of bile acid 7-dehydroxylating bacteria from human feces.
AU Takamine F; Imamura T
CS Laboratory of Microbiology, School of Health Sciences, Faculty of Medicine, University of the Ryukyus, Okinawa, Japan..
SO MICROBIOLOGY AND IMMUNOLOGY, (1995) 39 (1) 11-8.
Journal code: MX7. ISSN: 0385-5600.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199509
AB Methods for isolation of fecal 7 alpha-dehydroxylating bacteria are presented. A total of 219 strains were isolated from feces of healthy humans, and their ability to 7-dehydroxylate cholic, chenodeoxycholic, and ursodeoxycholic acids were examined. Of all the isolates, 14 strains were found to be capable of eliminating the hydroxy group at C-7 alpha and/or C-7 beta. All the isolates were strictly anaerobic, **Gram-positive** rods. Thirteen isolates were non-sporeforming bacteria showing certain saccharolytic properties with the production of acid and gas from dextrose, and were catalase-positive but indole-, lecithinase-, urease- and oxidase-negative. Based on the data available at present, it was concluded that they could be regarded as members of the genus Eubacterium. One strain, however was identified as Clostridium sordellii. The isolated strains capable of 7 alpha-dehydroxylating cholic acid and chenodeoxycholic acid were also able to oxidize the hydroxy group at C-7 alpha. Nine strains (10, 12, 36S, M-2, M-17, M-18, Y-98, Y-1112, and Y-1113) of the 7 alpha-dehydroxylating bacteria were confirmed to have 7 beta-dehydroxylation ability, but five strains (O-51, O-52, O-71, O-72, and Y-67) could not transform ursodeoxycholic acid to lithocholic acid.

L7 ANSWER 3 OF 8 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 1
AN 1995:170800 BIOSIS
DN PREV199598185100
TI Absence of cholic acid 7-alpha-dehydroxylase activity in the strains of Lactobacillus and Bifidobacterium.
AU Takahashi, Takuya (1); Morotomi, Masami
CS (1) Yakult Central Inst. Microbiol. Res., 1796 Yaho, Kunitachi, Tokyo 186 Japan
SO Journal of Dairy Science, (1994) Vol. 77, No. 11, pp. 3275-3286.
ISSN: 0022-0302.
DT Article
LA English
AB To investigate the presence of 7-alpha-dehydroxylase activity on bile acids in the bacterial strains of fermented milk products, 46 strains of Lactobacillus casei, Lactobacillus paracasei, Lactobacillus rhamnosus, Lactobacillus acidophilus, Lactobacillus gasseri, Bifidobacterium adolescentis, Bifidobacterium bifidum, Bifidobacterium breve, Bifidobacterium infantis, Bifidobacterium longum, Lactococcus lactis spp. lactis, and Streptococcus salivarius spp. thermophilus were tested for their ability to produce deoxycholic acid from cholic acid. The production of deoxycholic acid was quantitatively measured by radiochromatographic analysis in anaerobically prepared washed whole resting cells and by HPLC analysis in growing cultures. Resting whole cells from a positive control strain, Eubacterium lentum-like strain c-25, converted 81.7% of .2 mM cholic acid to deoxycholic acid and 3.7% to 7-keto-deoxycholic acid, when the cell suspension was incubated anaerobically at a concentration of 2 mg of protein/ml for 4 h at pH 7.3. However, none of the test strains investigated in this study was able to transform cholic acid under the same

conditions. In growing cultures, 91.5% of 150 mu-g/ml of cholic acid was transformed to deoxycholic acid and 1.1% to 7-ketodeoxycholic acid by E. lentum-like c-25 after a 7-d anaerobic incubation. None of the test strains showed production of either deoxycholic acid or 7-ketodeoxycholic acid as growing cultures.

L7 ANSWER 4 OF 8 MEDLINE
AN 83151498 MEDLINE
DN 83151498
TI 7 alpha-Dehydroxylation of bile acids by resting cells of an unidentified, **gram-positive**, nonsporeforming anaerobic bacterium.
AU Masuda N; Oda H
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1983 Feb) 45 (2) 456-62.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198306
AB Transformation of bile acids by washed whole cells of strain HD-17, an unidentified **gram-positive** anaerobic bacterium isolated from human feces, was studied. 7 alpha-**Dehydroxylase** was produced only during adaptive growth on medium containing 7 alpha-hydroxy bile acids. Both the extent of hydroxylation and the state of conjugation of the bile acids had marked effects on the induction of the enzyme, and the order of the enzyme induction was conjugated cholic acid much greater than cholic acid greater than taurochenodeoxycholic acid greater than or equal to chenodeoxycholic acid. The addition of excess glucose to the growth medium appreciably reduced the enzyme level. The induced enzyme required strict anaerobic conditions for activity and had an optimal pH range of 6.5 to 7.5. In contrast with the induction of the enzyme, the induced enzyme showed a low degree of substrate specificity between cholic acid and chenodeoxycholic acid, with some preference for the former. In addition, the organism contained 3 alpha-, 7 alpha-, and 12 alpha-hydroxysteroid dehydrogenases, and the addition of bile acids to the medium somewhat enhanced the production of the oxidoreductases. The dehydrogenations were obviously stimulated by oxygen as a terminal electron acceptor. The organism also contained bile salt hydrolase.

L7 ANSWER 5 OF 8 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1983:85610 BIOSIS
DN BR25:10610
TI ENHANCEMENT OF THE 7-ALPHA DEHYDROXYLASE ACTIVITY OF A **GRAM POSITIVE** INTESTINAL ANAEROBE BY FLAVINS.
AU MASUDA N; ODA H; HIRANO S; TANAKA H
CS DEP. OF BACTERIOL., FAC. OF MED., KAGOSHIMA UNIV., KAGOSHIMA 890, JPN.
SO Appl. Environ. Microbiol., (1983) 45 (1), 308-309.
CODEN: AEMIDF. ISSN: 0099-2240.
FS BR; OLD
LA English

L7 ANSWER 6 OF 8 CAPLUS COPYRIGHT 1999 ACS
AN 1983:68648 CAPLUS
DN 98:68648
TI Enhancement of the 7.alpha.-**dehydroxylase** activity of a **gram-positive** intestinal anaerobe by *Bacteroides* and its significance in the 7-dehydroxylation of ursodeoxycholic acid
AU Hirano, Seiju; Masuda, Noriyuki
CS Fac. Med., Kagoshima Univ., Kagoshima, 890, Japan
SO J. Lipid Res. (1982), 23(8), 1152-8

DT Journal

LA English

AB The 7.alpha.-dehydroxylation of chenodeoxycholic acid (I) and cholic acid by a *Eubacterium lentinum*-like intestinal anaerobe was specifically enhanced by the *Bacteroides* in mixed cultures and also by the addn. to the growth medium of cell exts. from the *Bacteroides*. The 7.alpha.-dehydroxylating organism also possessed 7.alpha.-hydroxysteroid dehydrogenase activity, and, in collaboration with a 7.beta.-dehydrogenating organism, converted ursodeoxycholic acid (II) to I. Large quantities of lithocholic acids were produced from II and from I in *in vitro* cocultures of these 3 kinds of microorganisms.

L7 ANSWER 7 OF 8 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.DUPLICATE 4
AN 81126936 EMBASE

TI Isolation and characterization of thirteen intestinal microorganisms capable of 7.alpha.-dehydroxylating bile acids.
AU Hirano S.; Nakama R.; Tamaki M.; et al.

CS Dept. Bacteriol., Fac. Med., Kagoshima Univ., Kagoshima 890, Japan
SO APPL. ENVIRON. MICROBIOL., (1981) 41/3 (737-745).
CODEN: AEMIDF

CY United States
LA English

AB Thirteen anaerobic **bacteria** capable of performing the 7.alpha.-dehydroxylation of both cholic acid and chenodeoxycholic acid were isolated from human feces and also from sewage. Ten organisms from heat-treated samples were species of *Clostridium* identical or closely related to the *Clostridium bifermentans*-C. *sordellii* group and consisted of four strains elaborating 7.alpha.-**dehydroxylase** alone and six strains capable of catalyzing both 7.alpha.-dehydrogenation and 7.alpha.-dehydroxylation. The remaining three organisms, recovered from fresh human feces, were **gram-positive**, nonflagellated, nonsporeforming, anaerobic rods and comprised two distinct species. Strain HD-17, still unidentified, had both activities, but was unique in that it exclusively 7.alpha.-dehydroxylated cholic acid while biotransforming chenodeoxycholic acid, preferably through 7.alpha.-dehydrogenation. Two unclassified strains, b-8 and c-25, metabolized both acids through 7.alpha.-dehydroxylation and 7.alpha.-dehydrogenation. Except for strains b-8 and c-25, all of the 7.alpha.-dehydroxylating **bacteria** split the conjugated bile acid series, and hydrolases were detected in cell-free filtrates of early stationary-phase broth cultures.

L7 ANSWER 8 OF 8 MEDLINE
AN 81244271 MEDLINE DUPLICATE 5
DN 81244271

TI Transformation of bile acids by mixed microbial cultures from human feces and bile acid transforming activities of isolated **bacterial** strains.
AU Hirano S; Masuda N; Oda H; Imamura T
SO MICROBIOLOGY AND IMMUNOLOGY, (1981) 25 (3) 271-82.
Journal code: MX7.

CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA English

FS Priority Journals
EM 198111

AB Microbiol transformation of cholic acid and chenodeoxycholic acid by anaerobic mixed cultures of human fecal microorganisms was investigated, and the results were examined in relation to the bile acid transforming activities of 75 **bacterial** strains isolated from the same fecal cultures. The reactions involved in the mixed cultures were dehydrogenation and dehydroxylation of the 7

alpha-hydroxy group in both primary bile acids and epimerization of the 3 alpha-hydroxy group in all metabolic bile acids. Extensive epimerization of the 7 alpha-hydroxy group of chenodeoxycholic acid yielding ursodeoxycholic acid was also demonstrated by certain fecal samples. 7 alpha-Dehydrogenase activity was widespread among the fecal isolates (88% of 16 facultative anaerobes and 51% of 59 obligate anaerobes), and 7 alpha-dehydroxylase activity was revealed in one of the isolates, and unidentified **gram-positive** nonsporeforming anaerobic bacterium. 3 alpha-Epimerization was effected by seven strains assigned to *Eubacterium lenthum*, which were also active for 3 alpha- and 7 alpha-dehydrogenations. No microorganism accounting for 7 alpha-epimerization was recovered among the isolates. Splitting of conjugated bile acid was demonstrated by the majority of obligate anaerobes but the activity was rare among facultative anaerobes.

=> d his

(FILE 'HOME' ENTERED AT 11:36:17 ON 13 JAN 1999)

FILE 'EMBASE, MEDLINE, BIOSIS, BIOTECHDS, JAPIO, WPIDS, CAPLUS,

CABA, LIFESCI, CONFSCI' ENTERED AT 11:36:51 ON 13 JAN 1999

L1 17 S BACTERIA? AND MODIF? (5A) BILE ACID
L2 12 DUP REM L1 (5 DUPLICATES REMOVED)
L3 0 S L2 AND DEHYDROXYLASE
L4 4 S L2 AND DECONJUGAT?
L5 191 S BACTERIA? AND DEHYDROXYLASE
L6 16 S L5 AND GRAM (5A) POSITIVE
L7 8 DUP REM L6 (8 DUPLICATES REMOVED)

=> s 15 and streptococc?

L8 9 L5 AND STREPTOCOCC?

=> dup rem 18

PROCESSING COMPLETED FOR L8

L9 5 DUP REM L8 (4 DUPLICATES REMOVED)

=> d bib ab 1-5

L9 ANSWER 1 OF 5 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 97-12180 BIOTECHDS

TI **Bacteria** with low bile acid 7-alpha-dehydroxylase
and deconjugation activity;

for use in liver and digestive system disease therapy

AU Cavaliere Vesely R M A; de Simone C

PA Cavaliere Vesely R M A; de Simone C

LO Milan, Italy; Rome, Italy.

PI EP 795604 17 Sep 1997

AI EP 97-830040 5 Feb 1997

PRAI IT 96-MI468 11 Mar 1996

DT Patent

LA English

OS WPI: 97-450829 [42]

AB A new **bacterial** strain, selected from

Streptococcus thermophilus, **Streptococcus faecium**
and **Lactobacillus bulgaricus**, preferably **S. thermophilus** YS 46
(CNCM I-1668), **S. thermophilus** YS 52 (CNCM I-1670), **S. thermophilus**
YS 48 (CNCM I-1669), **S. faecium** SF 3 (CNCM I-1671), **L. bulgaricus**
LB 1 (CNCM I-1664), **L. bulgaricus** LB 3 (CNCM I-1665), **L. bulgaricus**
LB 7 (CNCM I-1666) or **L. bulgaricus** LB 77 (CNCM I-1667), has
7-alpha-dehydroxylase activity of less than 50%, and a

bile acid deconjugation activity of less than 50%. The **bacteria** can be used for treating diseases associated with or caused by an altered metabolism of biliary acids, including liver diseases, diseases of the digestive system e.g. blind loop syndrome, gallstones, cirrhosis, chronic and acute hepatopathies, cystic fibrosis, intrahepatic cholestasis, intestinal inflammatory diseases, disorders of the colon, and malabsorption. (11pp)

- L9 ANSWER 2 OF 5 MEDLINE DUPLICATE 2
AN 95114207 MEDLINE
DN 95114207
TI Absence of cholic acid 7 alpha-**dehydroxylase** activity in the strains of Lactobacillus and Bifidobacterium.
AU Takahashi T; Morotomi M
CS Yakult Central Institute for Microbiological Research, Tokyo, Japan..
SO JOURNAL OF DAIRY SCIENCE, (1994 Nov) 77 (11) 3275-86.
Journal code: HWV. ISSN: 0022-0302.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199504
AB To investigate the presence of 7 alpha-**dehydroxylase** activity on bile acids in the **bacterial** strains of fermented milk products, 46 strains of Lactobacillus casei, Lactobacillus paracasei, Lactobacillus rhamnosus, Lactobacillus acidophilus, Lactobacillus gasseri, Bifidobacterium adolescentis, Bifidobacterium bifidum, Bifidobacterium breve, Bifidobacterium infantis, Bifidobacterium longum, Lactococcus lactis spp. lactis, and **Streptococcus** salivarius spp. thermophilus were tested for their ability to produce deoxycholic acid from cholic acid. The production of deoxycholic acid was quantitatively measured by radiochromatographic analysis in anaerobically prepared washed whole resting cells and by HPLC analysis in growing cultures. Resting whole cells from a positive control strain, Eubacterium lenthum-like strain c-25, converted 81.7% of .2 mM cholic acid to deoxycholic acid and 3.7% to 7-keto-deoxycholic acid, when the cell suspension was incubated anaerobically at a concentration of 2 mg of protein/ml for 4 h at pH 7.3. However, none of the test strains investigated in this study was able to transform cholic acid under the same conditions. In growing cultures, 91.5% of 150 micrograms/ml of cholic acid was transformed to deoxycholic acid and 1.1% to 7-keto-deoxycholic acid by E. lenthum-like c-25 after a 7-d anaerobic incubation. None of the test strains showed production of either deoxycholic acid or 7-keto-deoxycholic acid as growing cultures.
- L9 ANSWER 3 OF 5 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 83050866 EMBASE
TI The intestinal microflora and its colon cancer connection.
AU Gorbach S.L.
CS Infect. Dis. Div., Dep. Med., Tufts-New England Med. Cent., Boston, MA 02111, United States
SO INFECTION, (1982) 10/6 (379-384).
CODEN: IFTNAL
CY Germany, Federal Republic of
LA English
SL German
AB Epidemiologic studies suggest that the incidence of colon cancer is influenced by environmental factors, especially diet. The high beef-high fat-low fiber diet of Western societies is associated with a high risk of colon cancer. The intestinal microflora may play a role in colon cancer by metabolic activation of procarcinogens in the lumen of the large bowel. The link between diet and colon cancer can be explained, in part, by the alterations in fecal

bacterial enzyme activity induced by a Western-style diet. For example, fecal **bacterial**.beta.-glucuronidase, nitroreductase, azoreductase and steroid 7-.alpha.-**dehydroxylase** activities are increased in animals or humans consuming a high beef diet. These enzyme activities can be reduced by eating a grain diet, by the addition of *Lactobacillus acidophilus* to the diet, or by administration of low dose antibiotics. In experimental animals these three measures to reduce the activity of the microflora also produce few colon tumors in animals given the chemical carcinogen dimethylhydrazine. Further studies are needed to establish whether alterations in the metabolism of the colonic microflora can reduce the risk of large bowel cancer in humans.

- L9 ANSWER 4 OF 5 CAPLUS COPYRIGHT 1999 ACS
AN 1971:39544 CAPLUS
DN 74:39544
- TI Degradation of steroids by intestinal **bacteria**. II.
Enzymes catalyzing the oxidoreduction of the 3.alpha.-, 7.alpha.-, and 12.alpha.-hydroxyl groups in cholic acid, and the dehydroxylation of the 7-hydroxyl group
- AU Aries, Vivienne; Hill, Michael James
CS Med. Sch., St. Mary's Hosp., London, Engl.
SO Biochim. Biophys. Acta (1970), 202(3), 535-43
CODEN: BBACAO
- DT Journal
LA English
- AB Enzymes catalyzing the oxido-redn. of the 7.alpha.-, 3.alpha.-, and 12.alpha.-hydroxyl groups in cholic acid were studied in the cell-free state from strains of clostridia, *bacteroides*, *bifidobacteria*, and *enterobacteria* isolated from human fecal specimens. Enzymes specific for the 7.alpha.-hydroxyl group were isolated from 5 strains; enzymes active on both the 3.alpha.- and 7.alpha.-hydroxyl groups were isolated from 2 further strains, and an enzyme active on both the 3.alpha.- and 12.alpha.-hydroxyl groups from another strain. The pH optimum and bile acid specificity of these enzymes were detd. and the enzyme units per cell and Km values calcd. The 7-**dehydroxylase** from several human intestinal strains were investigated.
- L9 ANSWER 5 OF 5 CAPLUS COPYRIGHT 1999 ACS
AN 1968:85138 CAPLUS
DN 68:85138
- TI Degradation of bile salts by human intestinal **bacteria**
AU Hill, Michael James; Drasar, Bohumil S.
CS St. Mary's Hosp. Med. Sch., London, Engl.
SO Gut (1968), 9(1), 22-7
CODEN: GUTTAK
- DT Journal
LA English
- AB Pure cultures of intestinal **bacteria** were isolated from human intestinal flora and screened for their ability to deconjugate bile salts and remove the 7-OH group from free cholic acid. Anaerobic intestinal **bacteria** showing ability to deconjugate bile salts were *Bacteroides*, *Veillonella*, *Clostridium*, and *Bifidobacterium* species and also many strains of *Streptococcus faecalis* and some of *Staphylococcus aureus*. The deconjugating enzyme was taurocholate amidase (I). I activity was usually extracellular in *Bifidobacterium*, while it was mainly cell-bound in the other genera studied. The pH optimum for I was 6-7. I activity from all strains tested was inhibited by IO₄⁻ and Cu⁺⁺. I from *S. faecalis* was destroyed by merthiolate but was unaffected by HCHO, while the reverse was true for I derived from *Bacteroides* and *Bifidobacterium* strains. Cholate-7-**dehydroxylase** (II), which removes the 7-OH group from cholic acid to yield deoxycholate, was not restricted to any group of

bacteria but was not detected in any organism which did not also show I activity. However, no *Bifidobacterium* showed II activity. Of the enzyme inhibitors used, only merthiolate inhibited II. The pH optimum of this enzyme was also 6-7.

=> s 15 and lactobacill?

L10 16 L5 AND LACTOBACILL?

=> dup rem 110

PROCESSING COMPLETED FOR L10

L11 7 DUP REM L10 (9 DUPLICATES REMOVED)

=> d bib ab 1-7

L11 ANSWER 1 OF 7 CABA COPYRIGHT 1999 CABI
AN 1998:146950 CABA
DN 980405183
TI Absence of cholic acid 7 alpha -**dehydroxylase** activity in the strains of **Lactobacillus** and *Bifidobacterium* freshly isolated from human feces
AU Sato, M.; Sakaitani, Y.; Takahashi, T.; Morotomi, M.
CS Yakult Central Institute for Microbiological Research, Yaho, Kunitachi 186, Japan.
SO Journal of Intestinal Microbiology, (1998) Vol. 11, No. 2, pp. 105-108. 12 ref.
DT Journal
LA Japanese
SL English
AB The presence of 7 alpha -**dehydroxylase** activity in the bile acids of human intestinal *Bifidobacterium* and **Lactobacillus** strains was investigated. 12 strains of *Bifidobacterium* and 10 of **Lactobacillus** were freshly isolated from 6 healthy human subjects and tested for their ability to produce deoxycholic acid from cholic acid. The production of deoxycholic acid was quantitatively measured by HPLC. In growing cultures, >90% of the 150 micro g/ml of cholic acid was transformed to deoxycholic acid by a positive control strain, *Eubacterium lentum*-like strain c-25, after 7 days of anaerobic incubation. However, none of the test strains produced deoxycholic acid as growing cultures. It is concluded that strains of *Bifidobacterium* and **Lactobacillus**, regardless of their origin or subculture, lack bile acid 7 alpha -**dehydroxylase**.

L11 ANSWER 2 OF 7 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 97-12180 BIOTECHDS

TI **Bacteria** with low bile acid 7-alpha-**dehydroxylase** and deconjugation activity;

for use in liver and digestive system disease therapy

AU Cavaliere Vesely R M A; de Simone C

PA Cavaliere Vesely R M A; de Simone C

LO Milan, Italy; Rome, Italy.

PI EP 795604 17 Sep 1997

AI EP 97-830040 5 Feb 1997

PRAI IT 96-MI468 11 Mar 1996

DT Patent

LA English

OS WPI: 97-450829 [42]

AB A new **bacterial** strain, selected from *Streptococcus thermophilus*, *Streptococcus faecium* and **Lactobacillus bulgaricus**, preferably *S. thermophilus* YS 46 (CNCM I-1668), *S. thermophilus* YS 52 (CNCM I-1670), *S. thermophilus* YS 48 (CNCM I-1669), *S. faecium* SF 3 (CNCM I-1671), *L. bulgaricus* LB 1 (CNCM

I-1664), L. bulgaricus LB 3 (CNCM I-1665), L. bulgaricus LB 7 (CNCM I-1666) or L. bulgaricus LB 77 (CNCM I-1667), has 7-alpha-dehydroxylase activity of less than 50%, and a bile acid deconjugation activity of less than 50%. The **bacteria** can be used for treating diseases associated with or caused by an altered metabolism of biliary acids, including liver diseases, diseases of the digestive system e.g. blind loop syndrome, gallstones, cirrhosis, chronic and acute hepatopathies, cystic fibrosis, intrahepatic cholestasis, intestinal inflammatory diseases, disorders of the colon, and malabsorption. (11pp)

L11 ANSWER 3 OF 7 CAPLUS COPYRIGHT 1999 ACS
AN 1997:192810 CAPLUS
DN 126:275552
TI Intestinal flora in oncogenesis
AU Reddy, Bandaru S.
CS Div. Nutritional Carcinogenesis, American Health Foundation, Valhalla, NY, 10595, USA
SO Chonai Furora to Hatsugan--2, Chonai Furora Shinpojumu, 2nd (1995), Meeting Date 1993, 113-134, 169. Editor(s): Mitsuoka, Tomotari. Publisher: Japan Scientific Societies Press, Tokyo, Japan.
CODEN: 64EBAP
DT Conference; General Review
LA Japanese
AB A review with 59 refs. The relation between the intestinal microflora and carcinogenesis may involve the flora as well as its enzymes including .beta.-glucuronidase, 7.alpha.-dehydroxylase, nitroreductase, azoreductase, and phospholipase C, to cite a few, that are involved in the prodn., activation and/or deactivation of carcinogens and tumor promoters. Early studies in humans demonstrated a correlation between the death rate due to colon cancer in various populations and the fecal anaerobes and the prodn. of colonic secondary bile acids by the **bacterial** flora. Human and animal model studies have shown that increases in fiber and/or fat intake were assocd. with changes in fecal **bacterial** enzymes, particularly .beta.-glucuronidase, 7.alpha.-dehydroxylase, and phospholipase C (PLC) suggesting that dietary alterations may not only stimulate the growth of certain **bacteria** in the gut but also modifies the activities of **bacterial** enzymes. Gut microflora has been shown to modify the chem.-induced colon and mammary carcinogenesis in animal models. The incidence of 3,2'-dimethyl-4-aminobiphenyl-induced colon and mammary carcinogenesis was lower in germ-free rats as compared to their conventional counterparts. In addn., the diet-microflora interactions may also produce substances in the gut or change the gut microflora profile and inhibit carcinogenic process or act as anticancer agents. For example, fermented milk contg. **Lactobacillus** sp. and **Bifidobacterium** sp. or their lyophilized cultures have been shown to possess antimutagenic and anticarcinogenic properties.

L11 ANSWER 4 OF 7 MEDLINE
AN 95114207 MEDLINE
DN 95114207
DUPLICATE 2
TI Absence of cholic acid 7 alpha-dehydroxylase activity in the strains of **Lactobacillus** and **Bifidobacterium**.
AU Takahashi T; Morotomi M
CS Yakult Central Institute for Microbiological Research, Tokyo, Japan..
SO JOURNAL OF DAIRY SCIENCE, (1994 Nov) 77 (11) 3275-86.
Journal code: HWV. ISSN: 0022-0302.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English

FS Priority Journals

EM 199504

AB To investigate the presence of 7 alpha-dehydroxylase activity on bile acids in the bacterial strains of fermented milk products, 46 strains of *Lactobacillus casei*, *Lactobacillus paracasei*, *Lactobacillus rhamnosus*, *Lactobacillus acidophilus*, *Lactobacillus gasseri*, *Bifidobacterium adolescentis*, *Bifidobacterium bifidum*, *Bifidobacterium breve*, *Bifidobacterium infantis*, *Bifidobacterium longum*, *Lactococcus lactis* spp. *lactis*, and *Streptococcus salivarius* spp. *thermophilus* were tested for their ability to produce deoxycholic acid from cholic acid. The production of deoxycholic acid was quantitatively measured by radiochromatographic analysis in anaerobically prepared washed whole resting cells and by HPLC analysis in growing cultures. Resting whole cells from a positive control strain, *Eubacterium lentum*-like strain c-25, converted 81.7% of .2 mM cholic acid to deoxycholic acid and 3.7% to 7-keto-deoxycholic acid, when the cell suspension was incubated anaerobically at a concentration of 2 mg of protein/ml for 4 h at pH 7.3. However, none of the test strains investigated in this study was able to transform cholic acid under the same conditions. In growing cultures, 91.5% of 150 micrograms/ml of cholic acid was transformed to deoxycholic acid and 1.1% to 7-keto-deoxycholic acid by *E. lentum*-like c-25 after a 7-d anaerobic incubation. None of the test strains showed production of either deoxycholic acid or 7-keto-deoxycholic acid as growing cultures.

L11 ANSWER 5 OF 7 CABA COPYRIGHT 1999 CABI
AN 92:111790 CABA

DN 920455318

TI Cancer control and fermented milk

AU Kanbe, M.; Nakazawa, Y. [EDITOR]; Hosono, A. [EDITOR]

CS Central Research Institute, Meiji Milk Products, Japan.

SO Functions of fermented milk. Challenges for the health sciences, (1992) pp. 377-393. 55 ref.

Publisher: Elsevier Applied Science. London
ISBN: 1-85166-599-4

CY United Kingdom

DT Book; Book Article

LA English

AB This chapter discusses the importance of cultured milks containing lactic acid bacteria (*bifidobacteria*, *Lactobacillus acidophilus*, *L. bulgaricus*, *L. jugurti*, *L. casei* and kefir bacteria) for the prevention of stomach, colon and other cancers. It is claimed that cultured milks suppress the production of carcinogens by the enzymes of intestinal bacteria (notably beta-glucuronidase, azoreductase, nitroreductase, beta-glucosidase and 7-alpha-dehydroxylase), and that they remove free radicals and activate the immune system.

L11 ANSWER 6 OF 7 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.DUPLICATE 3
AN 83050866 EMBASE

TI The intestinal microflora and its colon cancer connection.

AU Gorbach S.L.

CS Infect. Dis. Div., Dep. Med., Tufts-New England Med. Cent., Boston, MA 02111, United States

SO INFECTION, (1982) 10/6 (379-384).

CODEN: IFTNAL

CY Germany, Federal Republic of

LA English

SL German

AB Epidemiologic studies suggest that the incidence of colon cancer is influenced by environmental factors, especially diet. The high beef-high fat-low fiber diet of Western societies is associated with

a high risk of colon cancer. The intestinal microflora may play a role in colon cancer by metabolic activation of procarcinogens in the lumen of the large bowel. The link between diet and colon cancer can be explained, in part, by the alterations in fecal bacterial enzyme activity induced by a Western-style diet. For example, fecal **bacterial** .beta.-glucuronidase, nitroreductase, azoreductase and steroid 7-.alpha.-**dehydroxylase** activities are increased in animals or humans consuming a high beef diet. These enzyme activities can be reduced by eating a grain diet, by the addition of **Lactobacillus acidophilus** to the diet, or by administration of low dose antibiotics. In experimental animals these three measures to reduce the activity of the microflora also produce few colon tumors in animals given the chemical carcinogen dimethylhydrazine. Further studies are needed to establish whether alterations in the metabolism of the colonic microflora can reduce the risk of large bowel cancer in humans.

L11 ANSWER 7 OF 7 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.DUPLICATE 4
AN 80080371 EMBASE
TI Effect of diet and **Lactobacillus acidophilus** supplements on human fecal **bacterial** enzymes.
AU Goldin B.R.; Swenson L.; Dwyer J.; et al.
CS Infect. Dis. Serv., Dept. Med., New England Med. Cent. Hosp., Boston, Mass., United States
SO J. NAT. CANCER INST., (1980) 64/2 (255-261).
CODEN: JNCIAM
CY United States
LA English
AB The effect of diet and **Lactobacillus acidophilus** supplements on fecal microflora enzyme activity was studied in humans. The **bacterial** enzymes that were investigated are known to catalyze reactions that may result in formation of proximal carcinogens. Compared to vegetarians, omnivores eating a 'Western-type' diet had higher levels of .beta.-glucuronidase, nitroreductase, azoreductase, and steroid 7-.alpha.-**dehydroxylase** in their fecal microflora. Removal of red meat or addition of fiber in the form of bran or wheat germ to the diet of omnivores for 30 days had no effect on .beta.-glucuronidase, nitroreductase, or azoreductase activity. However, removal of red meat or addition of fiber reduced fecal steroid 7-.alpha.-**dehydroxylase** activity. The addition of viable **Lactobacillus acidophilus** supplements to the diet of omnivores significantly decreased fecal **bacterial** .beta.-glucuronidase and nitroreductase activities. Thirty days after **Lactobacillus** supplements were curtailed, fecal enzyme levels returned to normal base-line activities. These findings suggested that the metabolic activity of the fecal microflora was influenced by diet and could be altered by **Lactobacillus** supplements and to a lesser extent by dietary fiber.